

**Table 1. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

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Analyte	Sample Designation:			CFBR-01	CFBR-02	CFBR-03	CFBR-CS-01	CFBR-CS-02	CFPR01-BF-01	CFPR01-BF-02
	Sample Date:			3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017	3/9/2017
	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit	N	N	N	N	N	N	N
1,1'-Biphenyl	4.7	20	mg/kg	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.15 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.026 U	0.13 U
1,4-Dioxane	5.3	24	mg/kg	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.092 U	0.48 U
2,2'-oxybis[1-chloropropane]	310	4700	mg/kg	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 UJ	0.074 U
2,3,4,6-Tetrachlorophenol	190	2500	mg/kg	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.032 U	0.17 U
2,4,5-Trichlorophenol	630	8200	mg/kg	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.18 U
2,4,6-Trichlorophenol	6.3	82	mg/kg	0.0097 U	0.0096 U	0.0096 U	0.0097 U	0.0096 U	0.0098 U	0.051 U
2,4-Dichlorophenol	19	250	mg/kg	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.0081 U	0.043 U
2,4-Dimethylphenol	130	1600	mg/kg	0.075 U	0.075 U	0.074 U	0.075 U	0.074 U	0.076 U	0.4 U
2,4-Dinitrophenol	13	160	mg/kg	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 U	1.4 U
2,4-Dinitrotoluene	1.7	7.4	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.014 U	0.072 U
2,6-Dinitrotoluene	0.36	1.5	mg/kg	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.096 U
2-Chloronaphthalene	480	6000	mg/kg	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0078 U	0.041 U
2-Chlorophenol	39	580	mg/kg	0.0086 U	0.0086 U	0.0086 U	0.0087 U	0.0086 U	0.0087 U	0.046 U
2-Methylnaphthalene	24	300	mg/kg	0.0075 U	0.0075 U	0.0088 J	0.0075 U	0.0075 U	0.0076 U	0.04 U
2-Methylphenol	320	4100	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.079 U
2-Nitroaniline	63	800	mg/kg	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.011 U	0.06 U
2-Nitrophenol	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.012 U	0.061 U
3 & 4 Methylphenol	--	--	mg/kg	0.0091 U	0.009 U	0.009 U	0.013 J	0.009 U	0.0092 U	0.048 U
3,3'-Dichlorobenzidine	1.2	5.1	mg/kg	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.2 U
3-Nitroaniline	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.054 U
4,6-Dinitro-2-methylphenol	0.51	6.6	mg/kg	0.091 U	0.091 U	0.09 U	0.091 U	0.09 UJ	0.092 U	0.48 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.057 U
4-Chloro-3-methylphenol	630	8200	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.078 U
4-Chloroaniline	2.7	11	mg/kg	0.0087 U	0.0087 U	0.0087 U	0.0088 U	0.0087 U	0.0088 U	0.046 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.054 U
4-Nitroaniline	25	110	mg/kg	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 UJ	0.013 U	0.068 U
4-Nitrophenol	--	--	mg/kg	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U	0.87 U
Acenaphthene	360	4500	mg/kg	0.0082 U	0.012 J	0.063 J	0.014 J	0.0082 U	0.011 J	0.044 U
Acenaphthylene	--	--	mg/kg	0.0087 U	0.0087 U	0.0087 U	0.0088 U	0.0087 U	0.0088 U	0.046 U

**Table 1. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Acetophenone	780	12000	mg/kg	0.0074 U	0.0075 U	0.039 U				
Anthracene	1800	23000	mg/kg	0.032 U	0.032 U	0.16 J	0.032 U	0.032 U	0.033 U	0.17 U
Atrazine	2.4	10	mg/kg	0.015 U	0.015 U	0.08 U				
Benzaldehyde	170	820	mg/kg	0.026 U	0.026 U	0.14 U				
Benzo[a]anthracene	<b>0.16</b>	2.9	mg/kg	<b>0.27</b>	<b>0.28</b>	<b>0.8</b>	<b>0.45</b>	<b>0.19</b>	0.28	<b>7.3</b>
Benzo[a]pyrene	<b>0.016</b>	0.29	mg/kg	<b>0.23</b>	<b>0.28</b>	0.67	0.32	<b>0.16</b>	0.29	<b>5.1</b>
Benzo[b]fluoranthene	<b>0.16</b>	2.9	mg/kg	<b>0.89</b>	<b>1.1</b>	<b>2.1</b>	<b>1.6</b>	<b>0.77</b>	0.77	<b>20</b>
Benzo[g,h,i]perylene	--	--	mg/kg	0.35	0.41	0.86	0.54	0.22 J	0.46	5.7
Benzo[k]fluoranthene	<b>1.6</b>	29	mg/kg	0.27	0.29	0.71	0.39	0.15	0.31	5.7
Bis(2-chloroethoxy)methane	19	250	mg/kg	0.011 U	0.011 U	0.056 U				
Bis(2-chloroethyl)ether	0.23	1	mg/kg	0.008 U	0.0081 U	0.043 U				
Bis(2-ethylhexyl) phthalate	39	160	mg/kg	0.013 U	0.013 U	0.64	0.38	0.15 J	0.068 J	0.07 UJ
Butyl benzyl phthalate	290	1200	mg/kg	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.048 J	0.056 U
Caprolactam	3100	40000	mg/kg	0.024 U	0.024 U	0.024 U	0.025 U	0.024 U	0.025 U	0.13 U
Carbazole	--	--	mg/kg	0.076 J	0.11 J	0.32 J	0.17 J	0.11 J	0.19 J	0.27 J
Chrysene	16	290	mg/kg	0.87	1	2.4	1.6	0.68	0.75	12
Dibenz(a,h)anthracene	<b>0.016</b>	0.29	mg/kg	<b>0.1</b>	<b>0.1</b>	<b>0.25</b>	<b>0.16</b>	0.018 U	0.11	<b>2.1</b>
Dibenzofuran	7.3	100	mg/kg	0.01 U	0.01 U	0.034 J	0.01 U	0.01 U	0.01 U	0.055 U
Diethyl phthalate	5100	66000	mg/kg	0.0097 U	0.0096 U	0.0096 U	0.0097 U	0.0096 U	0.0098 U	0.051 U
Dimethyl phthalate	--	--	mg/kg	0.0099 U	0.0099 U	0.0098 U	0.0099 U	0.0098 U	0.01 U	0.052 U
Di-n-butyl phthalate	630	8200	mg/kg	0.01 U	0.01 U	0.078 J	0.01 U	0.01 U	0.01 U	0.054 U
Di-n-octyl phthalate	63	820	mg/kg	0.017 U	0.017 U	0.092 UJ				
Fluoranthene	240	3000	mg/kg	1.1	1.4	4.1	2.4	1.1	1.4	3.7
Fluorene	240	3000	mg/kg	0.0074 U	0.0074 U	0.027 J	0.0074 U	0.0074 U	0.0075 U	0.039 U
Hexachlorobenzene	0.21	0.96	mg/kg	0.014 U	0.014 U	0.073 U				
Hexachlorobutadiene	1.2	5.3	mg/kg	0.0096 U	0.0095 U	0.0095 U	0.0096 U	0.0095 U	0.0097 U	0.051 U
Hexachlorocyclopentadiene	0.18	0.75	mg/kg	0.021 U	0.021 U	0.11 U				
Hexachloroethane	1.8	8	mg/kg	0.012 U	0.013 U	0.066 U				
Indeno[1,2,3-cd]pyrene	<b>0.16</b>	2.9	mg/kg	<b>0.36</b>	<b>0.43</b>	<b>0.94</b>	<b>0.6</b>	<b>0.24</b>	0.41	<b>5.6</b>
Isophorone	570	2400	mg/kg	1.4	1.1	0.0073 U	1.9	1.9 J-	0.046 J	0.12 J
Naphthalene	3.8	17	mg/kg	0.0086 U	0.0086 U	0.0086 U	0.0087 U	0.0086 U	0.0087 U	0.046 U
Nitrobenzene	5.1	22	mg/kg	0.011 U	0.011 U	0.057 U				
N-Nitrosodi-n-propylamine	0.078	0.33	mg/kg	0.011 U	0.012 U	0.061 U				
N-Nitrosodiphenylamine	110	470	mg/kg	0.031 U	0.031 U	0.16 U				
Pentachlorophenol	1	4	mg/kg	0.041 UJ	0.042 U	0.22 U				
Phenanthrene	--	--	mg/kg	0.33 J	0.36	1.2	0.6	0.26 J	0.5	0.67 J

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Phenol	1900	25000	mg/kg	0.011 U	0.011 U	0.049 J	0.021 J	0.011 U	0.011 U	0.059 U
Pyrene	180	2300	mg/kg	0.85	0.88	2.6	1.5	0.7	0.85	4

J - Estimated value

U - Indicates that the compound was analyzed for but not detected

EPA - Environmental Protection Agency

RSL - Regional Screening Levels

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

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CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
N	N	N	N	N	N	N	N	N
0.031 U	0.031 U	0.029 U	0.029 U	0.057 U	0.029 U	0.029 U	0.1 J	0.029 U
0.027 U	0.027 U	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.025 U	0.025 U
0.097 U	0.096 U	0.09 U	0.09 U	0.18 U	0.09 U	0.091 U	0.091 U	0.09 U
0.015 U	0.015 UJ	0.014 U	0.014 UJ	0.028 U	0.014 U	0.014 U	0.014 U	0.014 UJ
0.034 U	0.034 U	0.032 U	0.032 U	0.063 U	0.032 U	0.032 U	0.032 U	0.032 U
0.036 U	0.036 U	0.033 U	0.033 U	0.067 U	0.034 U	0.034 U	0.034 U	0.033 U
0.01 U	0.01 U	0.0095 U	0.0095 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0095 U
0.0086 U	0.0084 U	0.0079 U	0.0079 U	0.016 U	0.008 U	0.008 U	0.008 U	0.0079 U
0.08 U	0.079 U	0.074 U	0.074 U	0.15 U	0.074 U	0.074 U	0.075 U	0.074 U
0.28 U	0.27 U	0.25 U	0.25 U	0.51 U	0.25 UJ	0.26 UJ	0.26 UJ	0.25 U
0.014 U	0.014 U	0.013 U	0.013 U	0.027 U	0.013 U	0.013 U	0.013 U	0.013 U
0.019 U	0.019 U	0.018 U	0.018 U	0.036 U	0.018 U	0.018 U	0.018 U	0.018 U
0.0083 U	0.0081 U	0.0076 U	0.0076 U	0.015 U	0.0076 U	0.0077 U	0.0077 U	0.0076 U
0.0092 U	0.0091 U	0.0085 U	0.0085 U	0.017 U	0.0086 U	0.0086 U	0.0086 U	0.0085 U
0.008 U	0.0079 U	0.0074 U	0.0074 U	0.015 U	0.0074 U	0.0075 U	0.56	0.011 J
0.016 U	0.016 U	0.015 U	0.015 U	0.029 U	0.015 U	0.015 U	0.015 U	0.015 U
0.012 U	0.012 U	0.011 U	0.011 U	0.022 U	0.011 UJ	0.011 UJ	0.011 UJ	0.011 U
0.012 U	0.012 U	0.011 U	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.011 U
0.0097 U	0.0095 U	0.0089 U	0.0089 U	0.018 U	0.009 U	0.009 U	0.009 U	0.0089 U
0.041 U	0.04 U	0.037 U	0.037 U	0.075 U	0.038 U	0.038 U	0.038 U	0.037 U
0.011 U	0.011 U	0.0099 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
0.097 U	0.096 U	0.089 U	0.09 U	0.18 U	0.09 U	0.09 U	0.09 U	0.09 U
0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U
0.016 U	0.015 U	0.014 U	0.014 U	0.029 U	0.014 U	0.015 U	0.015 U	0.014 U
0.0094 U	0.0092 U	0.0086 U	0.0086 U	0.017 U	0.0087 U	0.0087 U	0.0087 U	0.0086 U
0.011 U	0.011 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
0.014 UJ	0.014 U	0.013 UJ	0.013 U	0.025 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 U
0.18 U	0.17 U	0.16 U	0.16 U	0.32 U	0.16 U	0.16 U	0.16 U	0.16 U
0.0088 U	0.0087 U	0.0081 U	0.0081 U	0.029 J	0.012 J	0.0082 U	0.39	0.016 J
0.0094 U	0.0092 U	0.0086 U	0.0086 U	0.017 U	0.0087 U	0.0087 U	0.0087 U	0.0086 U

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0.0079 U	0.0078 U	0.0073 U	0.0073 U	0.015 U	0.0073 U	0.0074 U	0.0074 U	0.0074 J
0.035 U	0.034 U	0.032 U	0.032 U	0.064 U	0.032 U	0.032 U	0.3 J	0.083 J
0.016 U	0.016 U	0.015 U	0.015 U	0.03 U	0.015 U	0.015 U	0.015 U	0.015 U
0.028 U	0.027 U	0.026 U	0.026 U	0.051 U	0.026 U	0.026 U	0.026 U	0.026 U
0.31	0.12	0.028 U	0.028 U	1.3	0.69	0.66	1.6	1.8
0.19	0.069	0.01 U	0.01 U	0.72	0.37	0.28	1.4	3.9
1.1	0.39	0.059	0.016 J	3.7	2	1.9	3.7	4.5
0.25 J	0.13 J	0.019 U	0.019 U	1.3	0.57	0.52	1.5	5.8
0.32	0.13	0.015 U	0.015 U	1	0.54	0.6	1.2	1.8
0.011 U	0.011 U	0.01 U	0.01 U	0.021 U	0.011 U	0.011 U	0.011 U	0.01 U
0.0086 U	0.0084 U	0.0079 U	0.0079 U	0.016 U	0.008 U	0.008 U	0.008 U	0.0079 U
0.14 J	0.079 J	0.013 U	0.013 U	0.026 UJ	0.013 U	0.013 U	0.15 J	0.013 U
0.011 U	0.077 J	0.01 U	0.01 U	0.021 U	0.089 J	0.44	0.01 U	0.01 U
0.026 U	0.026 U	0.024 U	0.024 U	0.048 U	0.024 U	0.024 U	0.024 U	0.024 U
0.32 J	0.13 J	0.052 J	0.02 J	1.7	0.59	0.62	1.1	0.16 J
1.3	0.54	0.17 J	0.068 J	4.5	2.1	2.3	3.8	2.7
0.071	0.027 J	0.017 U	0.017 U	0.33	0.17	0.19	0.45	1.3
0.011 U	0.011 U	0.01 U	0.01 U	0.024 J	0.01 U	0.01 U	0.12 J	0.023 J
0.01 UJ	0.01 U	0.0095 UJ	0.0095 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0095 U
0.011 U	0.01 U	0.0097 U	0.0097 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0097 U
0.011 UJ	0.011 U	0.01 UJ	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
0.018 U	0.018 U	0.017 U	0.017 U	0.034 UJ	0.017 U	0.017 U	0.017 U	0.017 U
2.6	1	0.89	0.33 J	11	4.5	4.4	7.9	2.5
0.0079 U	0.0078 U	0.0073 U	0.0073 U	0.019 J	0.0073 U	0.0074 U	0.031 J	0.0086 J
0.015 U	0.015 U	0.014 U	0.014 U	0.027 U	0.014 U	0.014 U	0.014 U	0.014 U
0.01 U	0.01 U	0.0094 U	0.0094 U	0.019 U	0.0095 U	0.0095 U	0.0095 U	0.0094 U
0.023 U	0.022 U	0.021 U	0.021 U	0.042 U	0.021 U	0.021 U	0.021 U	0.021 U
0.013 U	0.013 U	0.012 U	0.012 U	0.025 U	0.012 U	0.012 U	0.012 U	0.012 U
0.26	0.14	0.022 U	0.022 U	1.4	0.6	0.58	1.6	5.3
0.013 J	0.029 J	0.033 J	0.02 J	0.66	0.0072 U	0.17	0.37	0.0072 U
0.0092 U	0.0091 U	0.0085 U	0.0085 U	0.017 U	0.0086 U	0.0086 U	0.099 J	0.014 J
0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U
0.012 U	0.012 U	0.011 U	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.011 U
0.033 U	0.032 U	0.03 U	0.03 U	0.061 U	0.031 U	0.031 U	0.031 U	0.03 U
0.044 U	0.043 U	0.041 U	0.041 U	0.081 U	0.041 UJ	0.041 UJ	0.041 UJ	0.041 U
0.67	0.24 J	0.33	0.12 J	2.7	1.3	1.1	4.4	0.9

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0.012 U	0.012 U	0.011 U	0.011 U	0.025 J	0.011 U	0.011 U	0.025 J	0.011 U
1.4	0.53	0.15 J	0.035 J	4.4	3.2	3.4	5.9	2.1